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# MINERALOGICAL ABSTRACTS

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# MINERALOGICAL ABSTRACTS

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## ORGANIZATION OF ABSTRACTS

Arising from a decision taken at the meeting of the INTERNATIONAL MINERALOGICAL ASSOCIATION in Copenhagen in 1961 the Mineralogical Societies of America and Great Britain agreed to issue a joint statement to National Societies adhering to the Association inviting each Society to organize contributions of abstracts of papers published in the journals of its country on subjects relevant to *Mineralogical Abstracts*. This invitation was issued and has brought a gratifying response. Members of Societies which have agreed to co-operate in this way are entitled to receive *Mineralogical Abstracts* for their personal use at a reduced rate of subscription in application *which must be made through their National Society*. The countries now co-operating include: AUSTRALIA, AUSTRIA, BELGIUM, BULGARIA, CANADA, CZECHOSLOVAKIA, DENMARK, EGYPT, FINLAND, GERMANY, INDIA, ISRAEL, ITALY, JAPAN, NETHERLANDS, NEW ZEALAND, NORWAY, PAKISTAN, PORTUGAL, SPAIN, SWEDEN, SWITZERLAND. Individual mineralogists and petrologists in countries not represented in the Association, or not yet co-operating through their National Society, provide abstracts from the literature of ARGENTINA, BRAZIL, KENYA, MEXICO, and SOUTH AFRICA.

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## ERRATA

## Mineralogical Abstracts, vol. 21

## Abstract numbers

70-1649      Formula at end should read  $\text{Cu}_3(\text{AsO}_4)_2 \cdot n\text{H}_2\text{O}$

## Mineralogical Abstracts, vol. 22

71-2891      *for 2.864 and 4.275 p.p.m. read 2864 and 4275 p.p.m.*  
 71-3034      *for Boyd, B. read Boyd, R.*  
 71-548      *for alpha-arsenic read alpha-arsenic sulphide*  
 71-2329      *for 84 read 94*  
 71-2910      *for nacholite read nahcolite*

## Mineralogical Abstracts, vol. 23

72-305      *for Farkhonda, H. read Hassan, F.*  
 72-551      *for Q-Ab-An-Or read Q-AbAn-Or*  
 72-989      *for tunisian read tunisien*  
 72-1398      *for Erlichmannite read Erlichmanite*  
 72-1534      *for 0.065 %  $\text{Fe}_2\text{O}_3(\text{FeO}+\text{Fe}_2\text{O}_3)$  read 0.065  $\text{Fe}_2\text{O}_3/(\text{FeO}+\text{Fe}_2\text{O}_3)$*   
 72-1734      *for bobierite read bobierite*  
 72-1851      *delete line 3 up (repeated)*  
 72-1852      *for Liucei read Lincei*  
 72-1966      *last line should read "10 times RT, where R is the gas constant."*  
 72-2200      *for spressartine read spessartine*  
 72-2429      *r.h. column, second line, for it is read in its*  
 72-2219      *Additional authors, Kempe, D. R. C. and Symes, R. F.*  
 72-2570      *for materials read materials*  
 72-2853      *for the geology read the geology of*  
 72-2882      *for ver read fer.*



# ABBREVIATIONS USED IN REFERENCE TO PUBLICATIONS

Abhdl.	Abhandlungen	Geophys., geofis.	Geophysic-al, -s, &c.	Prosp.	Prospecting
Abstr.	Abstract, -s	Govt.	Government	Publ.	Publication(s), published
Abt.	Abteilung				
Acad., Accad., Akad.	Academy, & equiv.				
Adv.	Advancement	Hdbh.	Handbuch	Razv.	Razvedka = survey
Agric.	Agricultur-al, -e	Illustr.	Illustrat-ed, -ions	Rec.	Records
Anal.	Anal-ist, -tical, &c.	Imp.	Imperial	Ref.	References, referata
Ann., An.	Annals, Analess, & equiv.	Industr.	Industr-ial, -y	Rend.	Rendiconti
Anorg.	Anorganisch	Inform.	Information	Repb.	Republic
Appl.	Applied	Inst.	Institute, institution, & equiv.	Rept.	Report(s)
Arch.	Archives			Res.	Research
Assoc., Assoc.	Association, & equiv.	Instr.	Instruments	Reserv.	Reserves
Astron.	Astronomical	Int.	Interior	Resrcs.	Resources
		Intern.	International	Rdsch.	Rundschau
		Invest.	Investigations	Rev.	Review
Bd.	Band	Issl.	Issledovaniye = investigation	Roy.	Royal, & equiv.
Beitr.	Beiträge	Ist.	Istituto	Sborn.	Sbornik = magazine
Ber.	Bericht-e	Izd.	Izdanie = publication	Sch.	School, Schule
Berg.	Bergwesen	Izvest.	Izvestiya	Sci.	Science
Bol., Boll., Bull.	Bulletin, & equiv.			Sect.	Section
Bur.	Bureau	Jahresb.	Jahresbericht	Sedim.	Sedimentary
		Jahrb.	Jahrbuch	Ser., sér.	Series, & equiv.
Ceram.	Ceramic, & equiv.	Jorn., Journ.	Journal, & equiv.	Serv.	Service
Chem., Chim.	Chemi-cal, -stry, & equiv.			Sitzb.	Sitzungsbericht
Cien.	Ciencia, -s	Khim.	Khim-ie, &c.	Skr.	Skript, -en, -er
Circ.	Circular	Kl.	Klasse	Soc.	Society, & equiv.
Cl.	Classe	Krist.	Kristallographie, &c.	Sondbd.	Sonderband
Com.	Comisión			Spec., spez.	Special, & equiv.
Comm.	Commission	Lab.	Laboratory	Stand.	Standard(s)
Conf.	Conference, & equiv.	Lit.	Literary	Stn.	Station
Congr.	Congress, & equiv.			Suppl.	Supplement
Contr.	Contributions	Mag.	Magazine	Surv.	Survey, -or
C.R.	Comptes Rendus	Mat., Math.	Mathematical, & equiv.	Symp.	Symposium
Crist., Cryst.	Crystallograph-ical, -y & equiv.	Medd.	Meddelelser		
		Mem., Mém.	Memoir, -s, & equiv.	Tab(s).	Table(s), tabellen
		Metall.	Metallurg-ical, -y	Techn.	Technologi-cal, -y
Dept.	Department, & equiv.	Min.	Mineralog-ical, -ist, -y	Tids(s)kr.	Tid(s)krift, -en
Diss.	Dissertation	Misc.	Miscellaneous	Tijdschr.	Tijdschrift
Divn.	Division	Mitt.	Mitteilungen	Trab.	Trabajos
Dokl.	Doklady = C.R.	Mh.	Monatsheft	Trans.	Transactions
		Mus., Muz.	Museum, & equiv.	Transl.	Translat-ed, -ion
Econ.	Economic	Nac., Nat.,	National, & equiv.	U.A.R.	United Arab Republic
Educ.	Education	Naz.	Natur-al, -alist, & equiv.	Uch.	Uchenyie = learned
Eng.	Engineering	Natur.	Naturwissenschaft, & equiv.	Ucheb.	Uchebnyi = teaching
Exped.	Expedition	Natur-w, -v.		Unders.	Undersögelse, undersökning
Exper.	Experimental			Univ.	University, & equiv.
Expl.	Exploration				
Fac.	Faculty	Obraz.	Obrazovanie = education	Verhdl.	Verhandlungen
Fig(s).	Figure(s)	Obshch.	Obshchestva = society	Vidensk.	Videnskaps
Fis.	Fiscale, fisico			Volc., Vulk.	Volcanolog-ical, -y, &c.
Fören.	Föreningen	Petr.	Petrolog-ical, -y, & equiv.	Vses.	Vsesoyuznyi = All-Union
Förh.	Förhandlinger	Petrol.	Petroleum	Vyssh.	Vysshiikh = higher
Fortsch.	Fortschritt, -e	Phil.	Philosophical, &c.		
		Photos.	Photographs	Wiss.	Wissenschaft
		Photomicros.	Photomicrographs		
Gen.	General	Phys.	Physic-al, -s, & equiv.	Zap.	Zapiski = memoirs
Geol., géol.	Geolog-y, -ical, -ist, & equiv.	Pl(s).	Plate(s)	Zav.	Zavodskaya = factory
Gesell.	Gesellschaft	Polytech.	Polytechnic, & equiv.	Zaved.	Zavedeni = institution
Geo-chem., chim.	Geochemi-cal, -stry, &c.	Pract., Prakt.	Practical, & equiv.	Zeits.	Zeitschrift
Geogr.	Geograph-y, ical, &c.	Proc.	Proceedings	Zhurn.	Zhurnal = journal
		Prof.	Professional	Ztg.	Zeitung

# ABBREVIATIONS AND SYMBOLS

used in the text of abstracts

M.M. .. Mineralogical Magazine

; M.A. .. Mineralogical Abstracts

; A.M. .. American Mineralogist

## CHEMICAL & PHYSICAL CHEMICAL

cation-exchange capacity .. ..	c.e.c.
chemical analysis .. ..	chem. anal.
concentrated .. ..	conc.
differential thermal analysis .. ..	d.t.a.
dilute .. ..	dil.
disintegrations per minute .. ..	d.p.m.
equivalent $U_3O_8$ .. ..	$eU_3O_8$
ethylenediaminetetra-acetic acid .. ..	EDTA
heat of formation (absolute temperature subscript) .. ..	$\Delta H^\circ$
hydrogen ion conc. acidity .. ..	pH
insoluble residue .. ..	insol. res.
isotopes, e.g. .. ..	$^{40}Ar, ^{40}K$
loss on ignition .. ..	ign. loss
milliequivalent .. ..	me.
microgramme .. ..	$\mu g$
million-years .. ..	m.y.
not determined .. ..	n.d.
not found .. ..	nt. fd.
not present .. ..	nil
parts per million .. ..	p.p.m.
rare earths .. ..	TR or RE
standard mean ocean water .. ..	SMOW
strength of solution, normal .. ..	N
— — — molar .. ..	M
substances in ionic state	
anions, e.g. .. ..	$Cl^-, SO_4^{2-}$
cations, e.g. .. ..	$K^+, Fe^{3+}$
thermogravimetric analysis .. ..	t.g.a.
trace .. ..	tr.
X-ray fluorescence analysis .. ..	XRF

## CRYSTALLOGRAPHIC & STRUCTURAL

Ångstrom unit ( $10^{-8}$ cm) .. ..	Å
crystal axes .. ..	$a, b, c$
— face indices .. ..	(hkl)
— form indices .. ..	{hkl}
— zone indices .. ..	[hkl]
indices of X-ray diffractions .. ..	hkl
intensity, .. ..	I
— relative .. ..	$I/I_0$
interplanar spacing .. ..	d
mica structural polymorphs .. ..	$1M_1, 2M_1$
Siegbahn units .. ..	kX
space group. These words are written in full	
unit cell, formula units .. ..	Z
— — repeat distances .. ..	$a, b, c$
— — reciprocal lattice lengths of edges .. ..	$a^*, b^*, c^*$
— — interaxial angles direct lattice .. ..	$\alpha, \beta, \gamma$
— — — reciprocal lattice .. ..	$\alpha^*, \beta^*, \gamma^*$

## OPTICAL

dispersion, e.g. .. ..	$r > v$
electron microscopy .. ..	EM
extinction angle, e.g. .. ..	$\gamma : c$
infrared .. ..	IR
optic axial angle .. ..	2V
— — plane .. ..	O.A.P.
refractive index, in text .. ..	refr. ind.
— — of isotropic mineral .. ..	n
refractive indices	
of uniaxial mineral .. ..	$\omega, e$
of biaxial mineral .. ..	$\alpha, \beta, \gamma$
scanning electron microscopy .. ..	SEM
sign of biaxiality	
negative .. ..	$2V_a$ or —
positive .. ..	$2V_v$ or +
ultraviolet .. ..	UV

## PHYSICAL

calculated .. ..	calc.
calorie .. ..	cal.
calorie, large .. ..	kcal.
cycles per second .. ..	c/s
degree centigrade .. ..	$^{\circ}C$
density .. ..	D (quote units)
— , relative, e.g. .. ..	$D_4^{20}$
electron paramagnetic resonance .. ..	e.p.r.
gramme .. ..	g
hardness .. ..	H.
melting-point .. ..	m.p.
micron ( $10^{-4}$ cm) .. ..	$\mu$
millimicron ( $10^{-7}$ cm) .. ..	m $\mu$
nanometre ( $10^{-7}$ cm) .. ..	nm
natural remanent magnetization .. ..	n.r.m.
pounds per square inch .. ..	lb/in. <sup>2</sup>
pressure .. ..	P
soluble .. ..	sol.
specific gravity, terms of reference not known .. ..	sp. gr.
temperature .. ..	T
Vickers hardness number .. ..	VHN
wavelength .. ..	$\lambda$

## SYMBOLS

approximately equal to .. ..	$\sim$
equal to .. ..	=
equal to or greater than .. ..	$\geq$
equal to or less than .. ..	$\leq$
greater than .. ..	$>$
less than .. ..	$<$
not equal to .. ..	$\neq$
parallel to .. ..	$\parallel$
per cent. .. ..	%
per mille .. ..	‰
perpendicular to .. ..	$\perp$
proportional to .. ..	$\propto$



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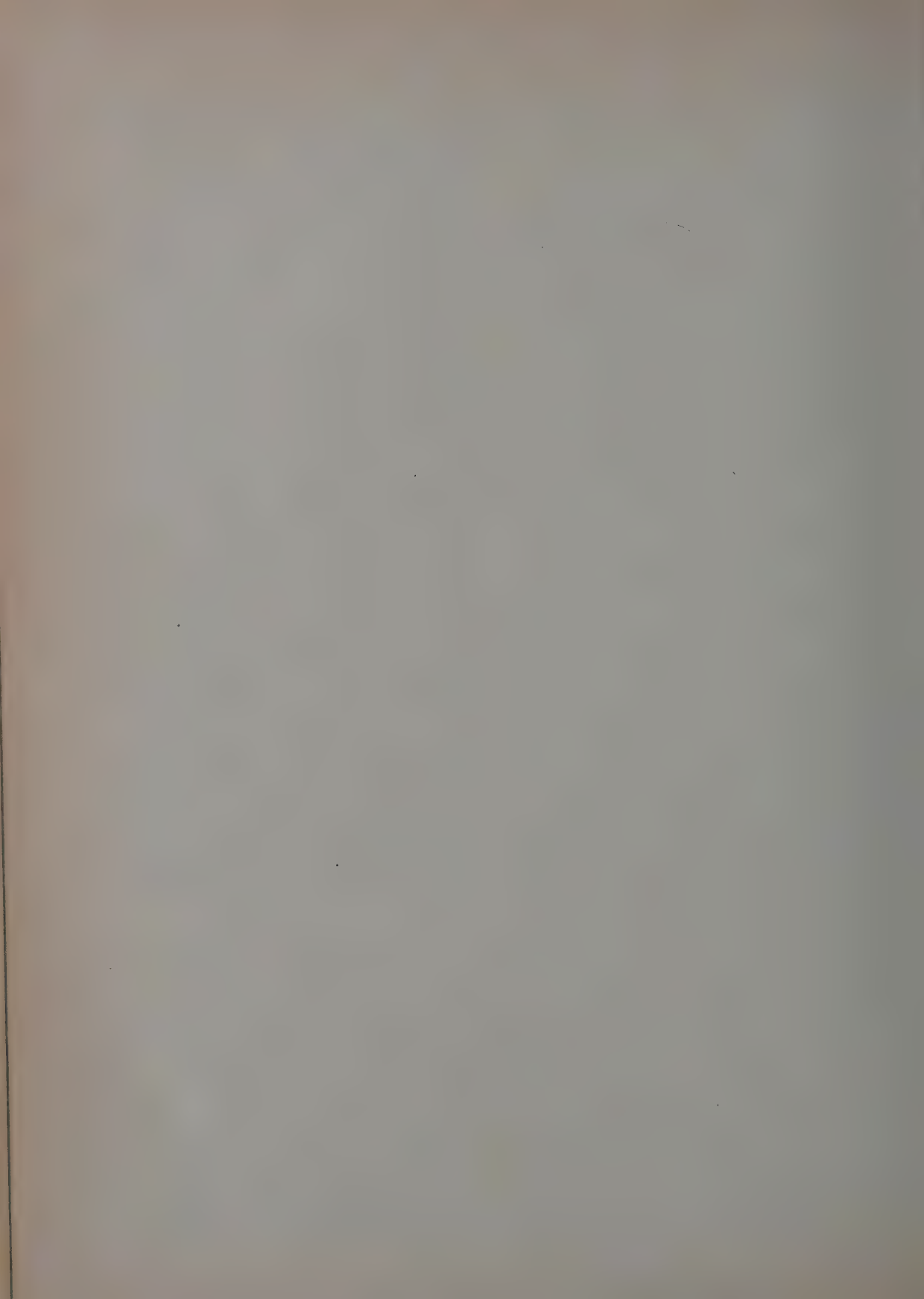
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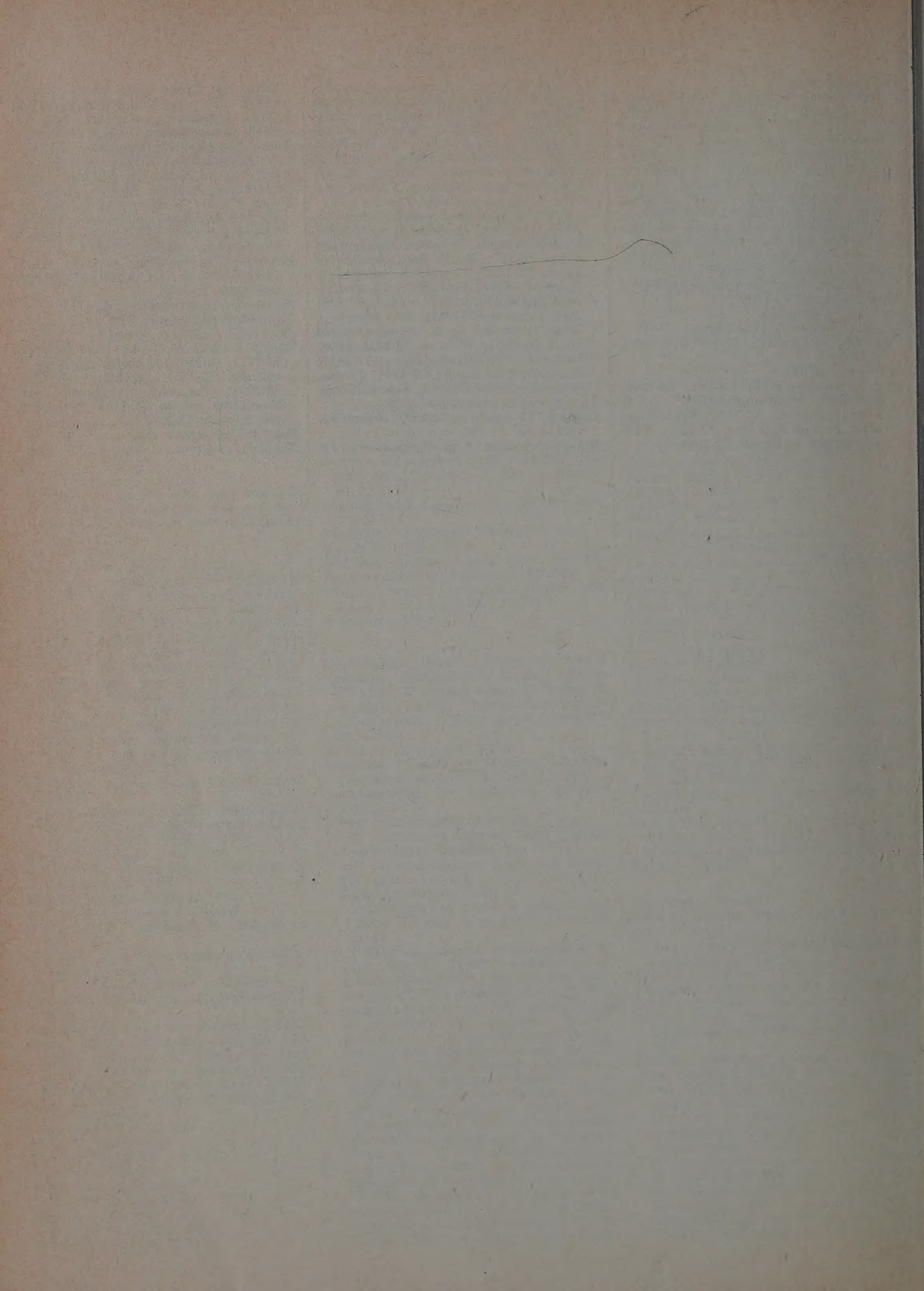
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